5/23

DART AEROSPACE LTD	Work Order:	23232
Description: Ø2.750 Support	**Part Number:**	D2893-1
Dwg: D2893 Rev. A1	**Qty:**	16
		Page 1 of 1

RF 03.06.09

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveller. Blank size makes (2) D2893-1 **Dwg not required**		05.05.11	16
2	PG	Issue P/O: 2008035 Description: D6104-005 Material: 17-4 PH SS (AMS 5643 OR AISI 630) as per Dwg D6104 REV B. **Material release note required.**		05.05.12	16
3	RG	Receive and Inspect for raw material dimensions. **Ensure material release note is attached.**	CL	05/05/20	~~16~~ 20
4	MS	Turn blank for Haas as per Folio FA081	JG	05/08/09	~~16~~
5	QC1	Inspect all dimensions as per Dwg D2893	JG	05/08/09	~~16~~
6	MV	Machine as per Folio FA081	JL/CP	05/08/18	16
7	MV	Tumble & Deburr	JL/CP	05/08/18	16
8	QC1	Inspect all dimensions to inspection sheet as per Dwg D2893	JL/CP	05/08/18	16
9	QC8	Inspect dimensions for second check		05.08.18	16
10	FP	Powder Coat White (4.3.5.2) per QSI 005 4.3		05 08 24	16
11	QC3	Inspect Powder Coat	DL	05/08/24	16
12	ST	Identify and stock	DL	05/08/24	16.
13	AC	Cost / part 121.74	SAC	05-08-25	16
14	DC	Close W/O 123.58 Inspect Level 21		05/08/25	16

Rev	Date	Change	Revised By	Approved
A	01.01.08	Preliminary Issue	EC	
B	01.07.19	Heat treat removed	NG	
C	02.11.26	Reformat; Added P/O	KJ / RF RF	

RELEASED
02.11.29 RF

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Mfg / Design Mgr	**Approval** QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Design Mgr	**Approval** QC Inspector
			Initial Design Mgr	**Action Description** Design Mgr	**Sign & Date**			

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes (No) **DQA:** _____ **Date:** 05/08/25

NOTE: Date & initial all entries **QA: N/C Closed:** _____ **Date:** _____

DART AEROSPACE LTD	Work Order:	23232
Description: Ø2.750 Support	Part Number:	D2893-1
Inspection Dwg: D2893 Rev. A1		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2893 Rev A1/DSK078 Rev A and record below:

				Recorded Actual Dimensions					
Dim	**Min**	**Max**	**Go/No Go Gauge**	**1**	**2**	**3**	**4**	**By**	**Date**
Lathe Section									
A	2.707	2.712		2.709	2.712	2.712	2.712		
B	4.946	4.966		4.946	4.946	4.947	4.946		
C	3.064	3.084		3.069	3.074	3.074	3.074		
D	0.718	0.738		0.728	0.728	0.727	0.724		
E	0.090	0.110		0.099	0.099	0.097	0.097		
F	2.934	2.954		2.940	2.944	2.944	2.944	SG	05/08/10
G	2.166	2.186		2.176	2.175	2.171	2.171		
H	3.890	3.910		3.890	3.900	3.900	3.900		
I	0.914	0.934		0.924	0.920	0.923	0.924		
J	0.022	0.042		0.032	0.032	0.032	0.032		
K	0.109	0.129		0.113	0.117	0.117	0.117		
L									
HAAS Section									
AA	2.985	3.005		2.991	2.996	2.997	2.996		
AB	0.440	0.460		.458	0.451	0.450	0.450		
AC	0.125	0.160		.145	0.148	0.144	0.142		
AD	0.040	0.060		042	0.042	0.042	0.043		
AE	0.188	0.193	DT8706	√	0.188	0.188	0.188		
AF	0.125	0.160		.145	0.143	0.144	0.143		
AG	0.140	0.160		.157	0.145	0.145	0.145		
AH	1.360	1.400		1.384	1.384	1.384	1.379		
AI	0.040	0.060		053	0.050	0.045	0.050		
AJ	1.190	1.230		1.230	1.218	1.218	1.223		
AK	0.010	0.020		.015	0.015	0.015	0.015		
AL	0.053	0.073		.063	.063	.063	.063		
AM	0.240	0.260		.250	0.250	0.250	0.250		
AN	2.518	2.538		2.518	2.528	2.528	2.528		
AO	84.39	90.39	DT8699	✱					cannot find DT1201
AP	0.257	0.262	DT8683		0.257	0.257	0.257		
AQ	0.053	0.073		.063	.063	.063	.063		
AR									
AS									
Accept/Reject									

Measured by:	S.G	Audited by	BC
Date:	05/08/09 / 05/08/17	Date:	05/08/09 / 05.08.17

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF RF	

RELEASED
03.07.01

DART AEROSPACE LTD	Work Order:	
Description: Ø2.750 Support	Part Number:	D2893-1
Inspection Dwg: D2893 Rev. A1		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2893 Rev A1/DSK078 Rev A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	~~1~~ 5	~~2~~ 6	~~3~~ 7	~~4~~ 8	By	Date
Lathe Section									
A	2.707	2.712		2.712	2.712	2.712	2.711		
B	4.946	4.966		4.958	4.953	4.952	4.953		
C	3.064	3.084		3.074	3.075	3.075	3.076		
D	0.718	0.738		0.727	0.724	0.728	0.728		
E	0.090	0.110		0.099	0.098	0.099	0.098		
F	2.934	2.954		2.944	2.946	2.944	2.944		
G	2.166	2.186		2.171	2.172	2.172	2.172		
H	3.890	3.910		3.900	3.900	3.900	3.900		
I	0.914	0.934		0.930	0.925	0.925	0.924		
J	0.022	0.042		0.032	0.032	0.032	0.032		
K	0.109	0.129		0.117	0.116	0.118	0.118		
L									
HAAS Section									
AA	2.985	3.005		2.995	2.996	2.999	2.997		
AB	0.440	0.460		0.450	0.450	0.458	0.452		
AC	0.125	0.160		0.148	0.148	.149	.150		
AD	0.040	0.060		0.042	0.042	.043	.042		
AE	0.188	0.193	DT8706	0.188	0.189	✓	✓		
AF	0.125	0.160		0.145	0.145	.145	.145		
AG	0.140	0.160		0.147	0.147	.145	.143		
AH	1.360	1.400		1.378	1.375	1.383	1.383		
AI	0.040	0.060		0.050	0.050	.049	.046		
AJ	1.190	1.230		1.224	1.221	1.225	1.223		
AK	0.010	0.020		0.015	0.015	0.015	0.015		
AL	0.053	0.073		0.063	0.063	0.063	0.063		
AM	0.240	0.260		0.250	0.250	0.250	0.250		
AN	2.518	2.538		2.528	2.529	2.527	2.258		
AO	84.39	90.39	DT8699						cannot find DT8699
AP	0.257	0.262	DT8683	0.257	0.257	✓	✓		
AQ	0.053	0.073		0.063	0.063	0.063	0.063		
AR									
AS									
Accept/Reject									

Measured by:	S.G/ J.L
Date:	05/08/13 / 05-08-13

Audited by	
Date:	05/08/13

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF RF	

RELEASED
03.07.01

Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

May 09, 2005
02:16 pm

Work Order No	: 0023232		
Project Name	: D2893-1	Department Code:	
Project For	: WK523	Burden Flags	: NNNNNNN
Work Order Type	: Main	WO Status	: Open
Main WO Number	:	Invoice State	: Not Invoiced
House Part Number	: D2893-1	Invoice Date	:
Description	: Support	Invoice Number	:
Manufactured	: Yes	Invoice Amount	: 0.00
Amount Req'd	: ~~14~~ 16 a		
Amount Done	: 0	Order Entry No	:
Start Date	: 05-09-05	OE Value	: 0.00
Est Finish Date	: 06-05-05		
Act Finish Date	:	Est Mark Up	: 0.000%
Drawings Reqd	: No	Actual Mark Up	: 0.000%
Ok for Approval	:		
Approval Rec'd	:	$0 Posted to Finished Goods	

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00		
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden :	0.00	0.00	0.00		
Total Cost :	0.00	0.00	0.00		
Mark up :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/(Loss) :	0.00	0.00

VALBRUNA
SLATER STAINLESS, INC.
2400 Taylor Street West, P.O. Box 630
Fort Wayne, Indiana USA 46801
Phone: 260-434-2892 Fax: 260-434-2905

Product Certification Report

Report Number: 4070640

Certified on Apr 26, 2005 Page 1 of 1

Order I.D.	Order Date	Commodity Code			
0500365 001	2/22/05	408860-5			
Dim 1	**Dim 2**	**Dim 3**	**Heat I.D.**	**Customer I.D.**	**Customer Purchase Order**
4.0000	.0000	.0000	239564	001153	CC5740
Product Shape	**Product Surface**				**Customer Grade**
Rounds	HR & Rough Turned				630
Length (inches)		**Bill of Lading #**	**Weight**		
132.000 Min. 156.000 Max.		401167			

Ship To
COPPER AND BRASS SALES
6555 E DAVISON
DETROIT, MI 48212

Sold To
VALBRUNA CORP.
31 IRON HORSE ROAD
OAKLAND, NJ 07436

Lifts: 0034

AISI 630 — CONDITION A — ASTMA 564-02
ASMESA 564 01 ED 2002 ADD — AMS 2303E — AMS 5643Q

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Cr	Ni	Mo	Cu	N	Cb	Ta	Cb+Ta
.040	.61	.024	.020	.50	15.63	4.63	.10	3.50	.04	.31	.001	.31

HB
363

TENSILE PROPERTIES
CAPABILITY

HB	TS (PSI)	.2%YS (PSI)	%EL(2")	%RA	AGE(F)
436	211000	186200	14.3	48.2	900

MAGNETIC PARTICLE TEST

	FREQ	SEV
AVG	.00	.00

MACRO ASTM E340/E381

MACRO
OK
OK
OK

PERCENT FERRITE

% FERRITE
.3

Date 5-18-05
Cust. Dad Aerospace
W/O # 133871
Qnty. 372.00 Pcs.
☐ Size ☐ Special Instructions
☐ Part # ☐ Alloy ☐ Heat/Lot
These test reports are for material shipped on your PO# 2008035 S OF 53833
From TMX Copper & Brass Sales
Quality Representative
Customer Part #

Free of mercury and low melting alloy contamination.
Maxx stainless.
Chemical testing performed to one or several of the following ASTM methods: E415, E572, E1019, E1085, E1086.
Material melted in Italy, manufactured in the United States.
Material conforms to listed specifications.
Quality system is compliant with ISO 9001:2000. Produced in accordance with EN 10204 3.1B.

Manager Laboratory Services Dennis Hackett

Dennis Hackett

DART AEROSPACE LTD	Work Order:	23232
Description: ∅ 2.750 Support	Part Number:	DZ893-1
Inspection Dwg: DZ893 Rev: A1		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☑ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
2.995	±0.010	2.991	✓			
0.450	±0.010	0.458	✓			
0.125/0.160	✓	Ø.145	✓			
0.050	±0016	0.042	✓			
∅.188	+0.001 −0.000	0.188	✓			
0.125/0.160	✓	0.145	✓			
0.150	±0.010	0.143	✓			
∅.380	+0.020 −0.000	1.384	✓			
0.050	±0.010	0.053	✓			
1.210	±0.020	1.230	✓			PART SLIGHTLY PINCHES CROSS TUBE.
0.010/0.020	✓	0.95	✓			IT IS STILL AS
0.063	±0.010	0.063	✓			GOOD OR BETTER
℄ 0.250	±0.010	0.250	✓			THAN EXISTING
2.528	±0.010	2.518	✓			~~SUPPLIED~~
0.257	+0.001 −0.000	0.257	✓			DZ893-1 SUPPORTS.
0.063	±0.010	0.063	✓			OK FOR THIS
						BATCH. ~~FIX~~
						HAVE ENGINEERING
						FIX SURFACE
						BEFORE NEXT BATCH

05.08.16

Measured by:	EP
Date:	05/08/16

Audited by:	BG
Date:	05.08.16

Prototype Approval:	CP
Date:	05.08.16

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/RF	